

NEW ABSTRACT

A position determining system for determining a position of a rotor of a rotating motor has sensors that are coupled to the rotor. The sensors generate, in response to a rotation of the rotor, a quadrature signal that has sine and cosine components. The position determining system calculates a sum (A^2) of a squared value of the sine component ($A^2 \sin^2 x$) and a squared value of the cosine component ($A^2 \cos^2 x$). An amplitude correction factor (A) is calculated as the squared root of the sum (A^2). An amplitude corrected sine component ($\sin(x)$) is obtained by dividing the sine component ($A \sin(x)$) by the amplitude correction factor (A). An amplitude corrected cosine component ($\cos(x)$) is obtained by dividing the cosine component ($A \cos(x)$) by the amplitude correction factor (A).